

Numeriske metoder

- Newtons metode: $x_{n+1} = x_n - \frac{f(x_n)}{f'(x_n)}$
- Eulers metode: $y_{n+1} = y_n + hf(x_n, y_n)$
- forbedret Euler metode: $y_{n+1} = y_n + h \frac{f(x_n, y_n) + f(x_{n+1}, u_{n+1})}{2}$
der $x_{n+1} = x_n + h$, og $u_{n+1} = y_n + hf(x_n, y_n)$.

Maclaurinrekker

$$e^x = \sum_{n=0}^{\infty} \frac{1}{n!} x^n \quad \sin x = \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n+1)!} x^{2n+1} \quad \cos x = \sum_{n=0}^{\infty} \frac{(-1)^n}{(2n)!} x^{2n} \quad x \in \mathbb{R}$$
$$\frac{1}{1-x} = \sum_{n=0}^{\infty} x^n \quad -1 < x < 1.$$

Eulers formel

$$\cos \theta + i \sin \theta = e^{i\theta}$$